

ORIGINAL

RECEIVED

OCT 15 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

Equal Access and Interconnection
Obligations Pertaining to Commercial
Mobile Radio Services

CC Docket No. 94-54
RM-8012

To: The Commission

REPLY COMMENTS OF BELL SOUTH

DOCKET FILE COPY ORIGINAL

BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Cellular Corp. (collectively "BellSouth"), by their attorneys, hereby reply to the Comments submitted in response to the Commission's *Notice of Proposed Rule Making and Notice of Inquiry*, FCC 94-145 (July 1, 1994), 59 Fed Reg. 35664 (July 13, 1994) ("*Notice*"). In its comments, BellSouth urged the Commission (1) not to require LECs to file CMRS interconnection tariffs, (2) to forbear from imposing specific types of CMRS-to-CMRS interconnection and preempt state regulation of such interconnection, (3) to prohibit restrictions on the resale of all CMRS services, except by facilities-based competitors, and (4) to require all CMRS licensees to provide equal access, if such an obligation is imposed on any CMRS licensee.

SUMMARY

In the Notice, the Commission sought comment on (1) whether current interconnection policies were sufficient to ensure satisfactory interconnection arrangements between local exchange

No. of Copies rec'd
List A B C D E

015

carriers ("LECs") and CMRS providers; (2) whether CMRS providers are obligated to allow resale of their services; and (3) whether rules regarding CMRS-to-CMRS interconnection were necessary.¹

Seventy-four parties submitted comments in response to the *Notice*. Most commenters oppose interconnection tariffs.² In addition, while many parties did not address resale issues, the majority of those commenting on the issue supported BellSouth's position that all CMRS providers should be required to allow the resale of their services.³ BellSouth reiterates that any resale requirement must comport with regulatory parity. Further, BellSouth again urges the Commission to clarify its resale policy to make clear that Bell Company LECs may resell cellular service.

While a number of parties supported BellSouth's position that any equal access requirement should be imposed on all CMRS providers, many parties opposed extension of the Commission's

¹ *Notice* at ¶ 1.

² See Comments of Airtouch Communications at 20; ALLTEL Mobile Communications, Inc. at 7-8; McCaw Cellular Communications, Inc. at 23; New Par at 21; NYNEX at 11; OneComm Corporation at 20; Pacific Bell at 12-13; Paging Network, Inc. at 8; Vanguard Cellular Systems, Inc. at 21; E.F. Johnson Company at 6-7; Geotek Communications, Inc. at 10; GTE Service Corporation at 37; Personal Communications Industry Association at 10; RAM Mobile Data USA Limited Partnership at 7; Bell Atlantic Companies at 13-15; Ameritech at 3; Waterway Communications System, Inc. at 8; CTIA at 17; Western Wireless at 7; SNet Mobility at 12-13; Rochester Telephone Company at 8; Cincinnati Bell Telephone Company at 2-3; and Southwestern Bell Corporation at 62-68. See also Dial Page, Inc. at 5-6; American Mobile Telecommunications Association at 13; AT&T at 12-13; Rural Cellular Association at 9; and American Personal Communications at 5-6.

³ See Comments of ALLTEL Mobile Communications, Inc. at 9; Southwestern Bell Corporation at 54; Allnet Communications Services, Inc. at 7; MCI at 13; McCaw Cellular Communications, Inc. at 21; National Cellular Resellers Association at 20; Pacific Bell at 24; LDDS Communications, Inc. at 21; GTE Service Corporation at 47 (with the exception of Air-to-Ground services); Bell Atlantic Companies at 17; AT&T at 14; CTIA at 34; SNET Mobility, Inc. at 15; and Rochester Telephone Corporation at 12. In addition, the Personal Communications Industry Association and American Personal Communications believed that the resale obligation should be imposed on all broadband CMRS services. See American Personal Communications at 8; Personal Communications Industry Association at 18.

equal access requirements. BellSouth reasserts that regulatory parity requires that all CMRS providers be subject to the same equal access requirements.

DISCUSSION

I. INTERCONNECTION

In the *Second Report* in Docket No. 93-252, the Commission extended its policies regarding the interconnection of Part 22 licensees to LEC facilities to all CMRS providers. Despite extending to all CMRS providers this interconnection policy, which requires the good faith negotiation of interconnection arrangements, the *Notice* requested comment on whether LECs should be required to file interconnection tariffs.⁴ In its comments, BellSouth urged the Commission to retain its current system of negotiated arrangements. Most parties agree with BellSouth that retention of the current interconnection policies best serve the public interest.⁵

McCaw Cellular Communications, Inc., a major non-wireline cellular provider, urges the Commission to retain its current system of individually negotiated interconnection arrangements.

According to McCaw:

[t]he use of contracts permits CMRS providers to seek and obtain interconnection arrangements customized to meet their specific network requirements and business planning needs more easily and efficiently than they could under a tariff regime. . . The continued use of negotiated interconnection arrangements will allow LECs to respond to these new CMRS providers' specific needs rather than forcing them into interconnection arrangements designed to meet the needs of other CMRS providers.⁶

⁴ *Notice* at ¶ 117.

⁵ *See* note 4 *supra*.

⁶ McCaw Comments at 23.

Western Wireless Corporation (“Western”), another non-wireline cellular provider, also urges the Commission to retain the current system of individually negotiated interconnection arrangements. According to Western, “[i]ndividually arranged interconnect agreements allow for maximum flexibility between the LEC and [the] cellular operator and continue to work well in the [cellular] industry.”⁷

The Personal Communications Industry Association (“PCIA”), an association representing new CMRS entrants, also supported continuation of the current interconnection policies. According to PCIA, the imposition of a tariff requirement would create inefficiencies and delay the availability of interconnected service.⁸ Given the support for retention of the current interconnection policies, especially by nonwirelines and entities representing new CMRS entrants, BellSouth urges the Commission not to alter its current interconnection policies.

II. RESALE ISSUES

The majority of parties commenting on resale issues support application of resale policies to all CMRS providers or, at a minimum, to all broadband CMRS providers.⁹ Accordingly, BellSouth reiterates its support for extending the prohibition on resale restrictions, except for restrictions on facilities-based competitors, to all CMRS providers.¹⁰

BellSouth notes, however, that one commenter proposes a resale policy which clearly violates regulatory parity. American Personal Communications (“APC”) supports the extension of

⁷ Western Comments at 7.

⁸ PCIA Comments at 11.

⁹ See note 3 *supra*.

¹⁰ BellSouth Comments at 22-25.

the Commission's resale policies to all CMRS providers but attempts to carve out an exception for PCS resale. Specifically, APC urges the Commission not to "exempt cellular carriers from providing resale opportunities to facilities-based CMRS competitors in their service areas"¹¹ while, at the same time, suggesting that PCS providers should be permitted to restrict the resale of its service to facilities-based cellular competitors. Such a regulatory scheme would clearly violate regulatory parity. Consistent with its comments, BellSouth believes that neither cellular nor PCS providers should be required to permit resale of their service by facilities-based competitors. This would comport with regulatory parity because cellular and PCS licensees would be allowed the same resale restrictions and would be given an incentive to compete on the basis of their own facilities-based coverage.

As indicated in BellSouth's comments, Bell Company LECs also should be eligible to resell cellular service.¹² As some Bell Company LECs are likely to become PCS licensees, regulatory parity requires that they be able to resell cellular service just like any other PCS licensee.¹³ To promote regulatory parity and ensure that the Broadband PCS licenses are awarded to those who value the spectrum the most, the Commission does not have to modify its rules to make clear that LECs may resell cellular service. The structural separation rule only needs to be interpreted consistent with its purpose.¹⁴ Under this rule, a LEC cannot promote or market cellular

¹¹ APC Comments at 8.

¹² BellSouth Comments at 25-27.

¹³ If the Commission adopts BellSouth's position that resale should not be mandatory in the case of facilities-based competitors, Bell Company PCS licensees, as well as other PCS licensees, should be able to resell the service of willing cellular carriers, subject to non-discrimination.

¹⁴ See 47 C.F.R. § 22.901.

service on behalf of the cellular affiliate, as its agent. As a reseller, the LEC obtains service as an independent purchaser, on the same terms and conditions as any other reseller, and then sells it to customers on its *own* behalf.

Further, as indicated in the attached affidavit of Richard P. Rozek,¹⁵ merely clarifying the ability of Bell Company LECs to resell cellular service prior to the auctions will increase the revenues paid for new PCS licenses by \$82 million.¹⁶ According to Mr. Rozek, cellular resale by PCS providers allows the PCS providers to establish name recognition and market presence prior to becoming fully operational. This advantage often results in the benefiting providers obtaining larger market shares than providers without the advantage.¹⁷ Accordingly, if Bell Company LECs are uncertain about their ability to resell cellular service, and thus the ability to establish name recognition and market presence, they will value the spectrum less to account for a decreased market share. Assuming a decrease in market share of only 2.6%, Mr. Rozek estimates that the valuation of PCS spectrum to Bell Company LECs will be reduced by \$160 million.¹⁸ By clarifying that Bell Company LECs can resell cellular service, however, these carriers would increase their valuation of PCS spectrum by \$160 million collectively. Revising the valuation of PCS spectrum in this manner will increase auction revenues by \$82 million.¹⁹

¹⁵ Mr. Rozek is an economist and Vice President of National Economic Research Associates, Inc.

¹⁶ Rozek Affidavit, Attachment 1, at 3, 9.

¹⁷ *Id.* at 4-5.

¹⁸ *Id.* at 5-6.

¹⁹ *Id.* at 3, 9.

III. EQUAL ACCESS REQUIREMENTS

While many parties oppose the application of equal access requirements on all CMRS providers, BellSouth agrees with those parties who support uniform application of these requirements on all competing two-way CMRS providers, to the extent any CMRS provider is subject to such a requirement.²⁰ BellSouth disagrees with Dial Page, Inc. which argues that equal access requirements should not be imposed on enhanced SMR ("ESMR") providers.²¹ The Commission has recently acknowledged that ESMR competes with cellular and, to some extent, these services are becoming interchangeable.²² The Commission also has deemed ESMR substantially similar to cellular service.²³ Exempting ESMRs from any equal access obligations imposed on their cellular competitors, or other CMRS providers, would run afoul of regulatory parity. As the Commission previously indicated: "We believe that the service characteristics and capabilities of wide-area SMR systems will make them competitors to cellular providers, in which case considerations of regulatory parity might weigh in favor of imposing similar regulatory obligations" on ESMR providers.²⁴ Regulatory parity requires that these services be subject to like regulation.

²⁰ As BellSouth has previously stated, the principal justification for imposing equal access requirements is regulatory parity and the MFJ's imposition of an equal access requirement on the Bell Companies two-way CMRS operations. If the MFJ equal access requirement is eliminated, the Commission's equal access requirement should also be eliminated.

²¹ Dial Page Comments at 3.

²² *Implementation of Sections 3(n) and 332 of the Communications Act*, GN Docket No. 93-252, *Third Report and Order*, FCC 94-212 at ¶¶ 57-62, 65, 67-68 (released September 23, 1994)(*"Third Report"*).

²³ *Third Report* at ¶ 12.

²⁴ *See Notice* at ¶ 45.

Further, as commenters noted, even-handed application of equal access requirements to all competing two-way CMRS providers also will serve the public interest by increasing consumer choice which “should result in lower toll rates as carriers compete to offer interexchange service” to these mobile subscribers.²⁵ Failure to subject all CMRS providers to equal access requirements will also prevent RBOC cellular carriers from taking advantage of economies of scope and scale. These carriers will be subject to costs and regulatory burdens not borne by similarly situated CMRS carriers. The equal access requirement thus will impose a regulatory constraint which would create an inefficient marketplace. Cellular providers will be “severely disadvantaged” if equal access is not implemented uniformly.²⁶

BellSouth supports the position of Southwestern Bell Corporation that, if equal access is required of any CMRS provider, regulatory parity requires the imposition of the same equal access requirement on all competing two-way CMRS providers.²⁷ Accordingly, BellSouth opposes those commenters who generally support the imposition of equal access requirements on cellular providers but, like Dial Page, urge the Commission to refrain from imposing similar regulations on them.

BellSouth also opposes those parties, such as Airtouch, opposing “1+” equal access obligations for all two-way CMRS providers.²⁸ BellSouth does not believe that the use of “dial-around arrangements, such as 10XXX dialing,”²⁹ is an acceptable alternative to 1+ dialing.³⁰

²⁵ California Public Utilities Commission Comments at 2. *See* Notice at ¶ 36, MCI Comments at ii-iii, 2, Allnet Comments at 2, McCaw Comments at 27.

²⁶ Airtouch Comments at 8. *See also* McCaw Comments at 28-29.

²⁷ Southwestern Bell Comments at 47.

²⁸ *See* Comments of Airtouch at 5, 7-8.

²⁹ *Id.* at 7.

³⁰ *See* BellSouth Comments at 37.

Customers should have the ability to access their chosen interexchange carrier without the expense associated with 10XXX.³¹ Requiring 1+ equal access will “also facilitate[] the delivery of a wider array of services . . . that cannot be provided with equivalent convenience and security through 10XXX, 800 or other extended dialing schemes.”³²

The Commission has found all CMRS services to be substantially similar. All CMRS services compete, or have the ability to compete, with one another. No evidence has been provided for treating RBOC cellular providers differently from other CMRS.³³ Imposing equal access on RBOC cellular providers subjects these providers to regulatory burdens and expenses not borne by their competitors. Regulatory parity was created to avoid such disparate treatment of similar services.³⁴

³¹ *Id.*

³² MCI Comments at 8.

³³ *See* Southwestern Bell Comments at 46.

³⁴ *See* BellSouth Comments at 31-32; McCaw Comments at 26-27; MCI Comments at 3.

CONCLUSION

Based on the foregoing, BellSouth urges the Commission to adopt the rules and policies governing CMRS interconnection, resale, and equal access set forth in its comments and restated above.

Respectfully submitted,

BELLSOUTH CORPORATION
BELLSOUTH TELECOMMUNICATIONS, INC.
BELLSOUTH CELLULAR CORP.

By: William B. Barfield
William B. Barfield
Jim O. Llewellyn

1155 Peachtree Street, N.E.
Atlanta, Georgia 30309-3610
(404) 249-4445

By: Charles P. Featherstun
Charles P. Featherstun
David G. Richards

1133 21st Street, N.W., Suite 900
Washington, D.C. 20036
(202) 463-4132

Their Attorneys

October 13, 1994

In the matter of)
)
Equal Access and Interconnection) CC Docket No. 94-54
Obligations Pertaining to) RM-8012
Commercial Mobile Radio Services)
)
)

AFFIDAVIT OF RICHARD P. ROZEK

(1) My name is Richard P. Rozek. I am an economist and a Vice President of National Economic Research Associates, Inc. (NERA), a firm specializing in the economics of competition and regulation. My business address is 1800 M Street, N.W., Washington, D.C. 20036.

(3) At the time I was awarded a Ph.D. degree, I was an assistant professor in the Department of Economics at the University of Pittsburgh. I continued in that position until January 1979. I then joined the Bureau of Economics at the U.S. Federal Trade Commission (FTC) in Washington, D.C. as a staff economist. I worked at the FTC in the antitrust and

regulatory analysis divisions for six and one-half years, holding several senior staff positions including Deputy Assistant Director for Antitrust. While at the FTC, I worked on analyses of mergers in high-technology industries and, more generally, on projects involving antitrust and regulatory issues in a wide variety of industries. In July 1985, I became the economist at the Pharmaceutical Manufacturers Association. I joined NERA in July 1987 as a Senior Consultant, and I was elected Vice President in September 1991. I have published approximately 30 articles in professional journals on topics such as competition policy, incentives for innovation, bidding processes and behavior of firms subject to regulatory constraints.

(4) Since joining NERA, I have worked on designing bidding processes for power generation markets, using bidding systems in labor markets for professional athletes and applying bidding models in antitrust analyses. I have testified at trials and in depositions on competition issues. I have submitted a report to a state regulatory agency on the competitive effects of specific bidding practices used by a telephone company to acquire inputs. I have submitted affidavits to the U.S. District Court in connection with requests for waivers of the Modification of Final Judgment (MFJ). I have submitted affidavits to the Federal Communications Commission (FCC) with regard to the merger of American Telephone and Telegraph Company (AT&T) and McCaw Cellular Communications, Inc. (McCaw) as well as bidding rules for auctions to award licenses to provide personal communications services (PCS) in the 2 GHz band (broadband PCS). I attach a copy of my current vita (Attachment A).

II. PURPOSE AND SUMMARY

(5) Currently, it is unclear whether the cellular structural separation rules allow the local exchange carriers (LECs) owned by the Regional Bell Operating Companies (RBOCs) to resell cellular mobile telephone service. The purpose of my affidavit is to estimate the change in revenues to the U.S. government in the upcoming broadband PCS auction if the FCC clarifies its policy to allow LECs owned by RBOCs to resell cellular service.

(6) Clarifying the resale policy to allow LECs to resell cellular service during the initial phase of development of PCS will help the RBOCs compete more effectively against PCS rivals who are able to resell cellular service. It will increase the value that the RBOCs assign to the PCS spectrum. Thus, they will likely raise their bids in the auction for broadband PCS licenses. The revenues to the U.S. government from the auction to allocate the PCS spectrum will likely increase. Based on auction theory and data from the narrowband PCS auctions, I estimate

that clarifying the resale policy could increase the revenues to the U.S. government from the broadband PCS auction by \$82 million.

III. LECs VALUE OF PCS SPECTRUM WILL INCREASE WITH RESALE

A. Emerging Technologies

(7) It is in those geographic areas where RBOCs own LECs that the RBOCs have familiarity with customer base and brand name recognition. If the LECs are allowed to resell cellular service, the transition from an industry in which cellular, enhanced specialized mobile radio (ESMR) and, perhaps, paging currently compete to one in which PCS competes with these other technologies will have fewer obstacles. By entering PCS, the LECs will be able to experiment with alternative technologies to facilitate future restructuring. Otherwise, they will be competitively disadvantaged due to the current regulatory environment and future competition will be diminished.¹

(8) AT&T/McCaw is already taking steps to "lead the future of communications." The recent merger of these companies "is part of a grand plan to package wireless and wireline products and services under what is perhaps the most recognized brand name in telecommunications-AT&T."² AT&T/McCaw will likely be a formidable competitor in PCS. "Certain PCS providers may be able to take advantage of scope economies made possible by their ability to provide multiple services. For instance, long distance service providers may view PCS as a way of reducing their costs of completing long distance calls."³ To avoid a market structure for wireless services in which a firm such as AT&T/McCaw dominates, the LECs should be free of regulatory constraints on resale of cellular service that inhibit their abilities to compete in PCS. For the RBOCs to be effective competitors in providing PCS, they need to begin establishing their marketing and technological positions now or risk being left behind in terms of developing wireless customers and gaining experience with new wireless technologies.

¹ The MFJ is another example of a regulation that creates competitive disparity for RBOCs relative to non-RBOC competitors in a number of activities.

² J. Silva, "McCaw's Messaging Divisions to use AT&T Name by Year-End," *RCR*, Vol. 13, No. 18, October 3, 1994, p. 20.

³ M. Bykowsky and R. Cull, "Issues in Implementing a Personal Communications Services Auction," Attachment 1 to "Comments of the National Telecommunications and Information Administration," Before the Federal Communications Commission in the matter of Implementation of Section 309(j) of the Communications Act - Competitive Bidding; PP Docket No. 93-253, filed November 10, 1993, p. 27.

(9) A consequence of the LECs being able to resell cellular service is that the RBOCs will be in a better position to participate in the PCS industry. This means that the likelihood of their individual success in offering PCS increases. Thus, the value of the PCS spectrum for the RBOCs increases. If this occurs, the RBOCs are likely to raise their bids for licenses to use the spectrum. More competition by the RBOCs in bidding for licenses will raise the revenues collected by the U.S. government from the auction process.

(10) "The Office of Management and Budget [OMB] estimated that auctioning broadband PCS licenses would generate \$12.6 billion in revenues."⁴ To estimate the increase in revenues to the seller (U.S. government) in an auction as a result of some of the bidders (RBOCs) revising upward their estimates of the value of the subject of the auction (right to use a portion of the spectrum) requires estimating the incremental contribution to the RBOCs' profits from reselling cellular service.

(11) The source of increased value of the PCS spectrum associated with allowing resale that I will measure is due to the ability of the RBOCs to compete effectively in providing PCS. That is, the share of revenues and profits from PCS for the RBOCs will be higher as a result of increased opportunities to develop both their brand names in wireless communications and knowledge of PCS technologies.

B. First Mover Advantage

(12) The disadvantage faced by the RBOCs if their LECs are not allowed to resell cellular service and thereby establish their positions in wireless services, especially PCS, is that some firms such as AT&T/McCaw may establish their positions in PCS before the RBOCs and thus gain a First Mover Advantage (FMA). This is a well-known concept in both economics and marketing;⁵ specifically, the first firm entering a new market may obtain a significant share of consumers and other advantages over later entrants. These advantages stem from conditions that can vary substantially across products. FMAs do not necessarily have adverse consequences for consumers if they are obtained as a result of a competitive process such as a patent race as opposed to resulting from regulations or ambiguous regulatory policies.

⁴ "Fifth Report and Order," Before the Federal Communications Commission in the matter of Implementation of Section 309(j) of the Communications Act - Competitive Bidding, PP Docket No. 93-253, released July 15, 1994, p. 13.

⁵ M. Porter, *Competitive Advantage, Creating and Sustaining Superior Performance*, New York, NY: The Free Press, 1985, pp. 186-189. FMAs influence many aspects of a firm's operations. They have an impact on cost structures, the acquisition of knowledge, and the firm's relationships with its customers and suppliers. FMAs influence the competitive environments in many markets.

(13) In telecommunications, the primary advantages of being first are brand loyalty,⁶ access to favorable distribution and learning effects. There is evidence of FMAs in telecommunications markets. AT&T continues to dominate long distance service in spite of entry by firms such as MCI and Sprint. AT&T accounts for over 60 percent of interstate switched access minutes. AT&T maintains a dominant position over MCI and Sprint in spite of these rivals charging lower prices. Since 1990, AT&T's prices have not fallen even after it experienced decreased access charges.⁷ AT&T's established position insulates it from competitive pressures.

C. Measuring Lost Market Share

(14) A problem to address in the context of PCS auctions is the role that FMAs play in the value a potential bidder assigns to the spectrum. Without being able to resell cellular service, the LECs owned by RBOCs will likely lag behind other major telecommunications firms in developing broadband PCS. Since PCS are only now beginning to emerge, there are no empirical studies on order of entry advantages. However, empirical research in a number of industries confirms "pioneers generally had a sustained market share advantage over other firms in a category."⁸

(15) To estimate the loss in PCS revenues from late entry into PCS, I assumed that if all firms began providing PCS simultaneously, they would obtain shares of revenues in proportion to the PCS spectrum they licensed. As the auction process is currently structured there will be three-30 MHz blocks of spectrum and three-10 MHz blocks with some blocks set aside for designated entities. Current FCC rules effectively limit a RBOC to at most 10 MHz or 8.3 percent of the total spectrum available.⁹

(16) If LECs owned by RBOCs are unable to resell cellular service and provide PCS simultaneously with other providers, the theory of FMA suggests the RBOCs will lose a share of

⁶ When consumers have a favorable experience with a product or service, they may become reluctant to change to a later entrant with unknown quality. They also tend to rely on established firms for upgrades to the technology.

⁷ The WEFA Group, *Economic Impact of Eliminating the Line-of-Business Restrictions on the Bell Companies*, July 1993, pp. 16 and 17.

⁸ D. Haines, R. Chandran and A. Parkhe, "Winning by Being the First to Market...or Second?," *The Journal of Consumer Marketing*, Vol. 6, No. 1, Winter 1989, p. 65.

⁹ Of course, the overall market for assessing competition is wireless services, which includes cellular service, ESMR, PCS and, perhaps, paging. My focus here, however, is on the allocation of the PCS spectrum.

total PCS revenues. Based on economic/marketing research on FMA, I estimate that the lost share is equal to 2.6 percent.¹⁰ See Table 1 in Attachment B.

(17) To estimate PCS revenues, I used cellular service revenues adjusted for inflation during its first ten years (1984 through 1993) as a basis for comparison. However, the experience in the United Kingdom suggests that PCS providers may need to offer a price advantage, in the form of a 20-25 percent discount, to distinguish themselves from cellular.¹¹ However, while PCS providers will have high upfront investments, production and operating costs are expected to be lower relative to cellular firms' costs. To adjust for the effects of increased competition, I reduced cellular revenues per subscriber by 20 percent and multiplied this amount by the estimated number of PCS subscribers.¹² I project that total revenues for PCS during the period 1995-2004 will be \$41.9 billion. See Table 2 in Attachment B.

(18) Using these share and revenue estimates, the revenues gained by RBOCs as a result of their LECs being able to resell cellular service and establish their positions in PCS simultaneously with the other potential providers is \$1.1 billion. Assuming profit margins for PCS similar to those for cellular service during the corresponding period in the cellular product life cycle, the net present value of incremental profits gained from simultaneous entry in PCS for the RBOCs is \$160 million. See Table 3 in Attachment B.

IV. INCREASE IN AUCTION REVENUE

(19) In previous work, to understand the effect on government revenues of restricting bidders from acquiring certain PCS licenses in areas where they are the cellular provider, I examined the round-by-round bidding data from the recently concluded auction for narrowband PCS licenses.¹³ In this auction, 10 licenses were awarded to six major paging firms. The total

¹⁰ This is derived from data provided in Haines, Chandran and Parkhe, *op. cit.*, p. 64, normalized to the case of six participants with different capacities offering a product or service to consumers.

¹¹ D. Leibowitz, E. Buck, T. Weller and J. Whittier, *The Wireless Communications Industry*, New York: Donaldson, Lufkin & Jenrette, Summer 1994, p. 18 (DLJ).

¹² See *Ibid.*, p. 13. Both the Personal Communications Industry Association and DLJ estimated the number of PCS subscribers or subscriptions over the next ten years. Taking into account the expected level of competition, I relied on DLJ's more conservative estimates.

¹³ Affidavit of Richard P. Rozek, Before the Federal Communications Commission in the matter of *Amendment to the Commission's Rules to Establish New Personal Communications Services*, GEN Docket No. 90-314, filed August 30, 1994. The rules at issue in this earlier report are the cellular eligibility and spectrum cap rules.

revenue generated from the auction was \$617,006,674. From the round-by-round bid data, I eliminated all bids for any license made by any of the six eventual winning bidders. I then calculated the total revenue from the auction under the assumption that the next highest bidder for each license would have been awarded that license at its highest bid price. Under this system, the total revenue for the ten licenses would be \$428,227,541 or \$188,779,133 less than actual revenue. In other words, if the FCC had excluded the six bidders who had the highest bids for the narrowband PCS licenses from the auction, the revenues from the auction would likely have been reduced by 30.6 percent. If the magnitude of the effect of restricting bidders in the broadband PCS auction is the same as the above effect for the narrowband auction, using the OMB revenue estimate of \$12.6 billion, the loss of revenues to the U.S. government from the cellular eligibility and spectrum cap rules is \$5.6 billion.

(20) In the present context, I estimate the net present value of the incremental gain in profits to be \$160 million as a result of clarifying FCC policy regarding resale of cellular service by LECs owned by RBOCs. This is the maximum that the RBOCs would be able to raise their bids for licenses in the broadband PCS auction. Higher increases would not be justified in this situation.

(21) The results of the recently concluded narrowband PCS auction are helpful in determining whether the RBOCs will increase their bids and whether the government will achieve greater revenues. It is interesting to note that the RBOCs were not among the firms winning many of the narrowband PCS licenses. Only one of the 10 licenses to provide narrowband PCS was awarded to a RBOC (BellSouth Corporation). However, examining the difference in the winning bids and the next highest bids by non-winning bidders in the narrowband PCS auction reveals that for five of the 10 licenses the highest bid by a non-winner was within 15 percent of the winning bid. In four cases, the difference was less than 8 percent. *See* Table 1 in Attachment C.

(22) In the current environment, the RBOCs are likely participants in the broadband PCS auction. However, they are subject to constraints in the form of the MFJ and FCC policies that inhibit their ability to compete fully in these emerging telecommunications industries. The RBOCs may be among the firms that value PCS spectrum highly.¹⁴ But they may not as yet be the firms with the highest valuation due in part to regulatory constraints. Other likely participants in PCS auctions are already taking steps to develop and diffuse PCS technology quickly.

¹⁴ The broadband PCS auction contains elements of both private and common value auctions. For a private value auction, each bidder has its own value of the item for sale. On the other hand, in a common value auction, the value of the item is the same, but unknown to the bidders.

AT&T/McCaw will likely be a formidable competitor in bidding for the 10 MHz blocks. ESMR firms such as Nextel may be aggressive bidders for the 10 MHz blocks to fill in coverage gaps and compensate for having less capacity than cellular providers. Clarifying FCC policies on resale will increase the value of the spectrum for the RBOCs and provide the basis for the RBOCs to increase their bids.¹⁵ But the value of the spectrum for these other bidders will not increase as a result of clarifying a policy that applies only to the RBOCs. It is unlikely these other bidders would increase their bids as a result of this policy change.

(23) The increase in bidding competition from the RBOCs will likely increase revenues to the government. As discussed above, the OMB estimate of revenues to the U.S. government from the broadband PCS auction is \$12.6 billion. The RBOCs are restricted to 10 MHz of the spectrum or 8.33 percent, which represents \$1.05 billion of the total.¹⁶ The estimated increase in the RBOCs' value of the spectrum due to the FCC clarifying its policy on resale of cellular service by LECs is \$160 million or slightly more than 15 percent of the estimated bid amount for one 10 MHz block. Experience with the narrowband PCS auction suggests that if the highest bids by non-winners were increased by 15 percent, five licenses could possibly have been awarded to other bidders. That is, a relatively small change in the bids by the highest bidding non-winning bidders could have changed the outcome of the auction for one-half of the narrowband PCS licenses. An increase in the bids for the 10 MHz licenses available to the RBOCs of 15 percent or \$158 million is less than the estimated increase in their value of the broadband PCS spectrum.

(24) Of course, estimating the increase in revenues from the broadband PCS auction to the U.S. government depends on the new bids by the RBOCs being the winning bids and the amount by which the winning bids exceed the bids of the rival bidders. Assuming the RBOCs become the winning bidders as a result of the policy change and the rival non-RBOC bidders do not raise their bids, the narrowband PCS data provide some insight here. Using the narrowband PCS data, the average difference between the winning bid and highest bid by a non-winner in the five licenses where the maximum difference is less than 15 percent is 7.2 percent. *See* Table 2 in Attachment C. This previous auction experience suggests that if the RBOCs increase their bids for broadband PCS licenses by 15 percent, but, on average, the winning bids exceed the highest

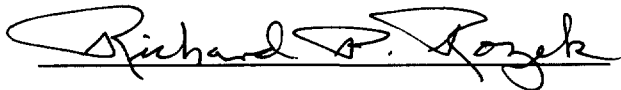
¹⁵ If there is a policy change, other bidders will have to consider the effect of the increase in value of the item for a rival in their own bid strategies.

¹⁶ The calculation is $(10/120) \times 12.6 = 1.05$. The 10 MHz blocks may be less valuable to some bidders. However, the RBOCs currently have no other option if they want to provide PCS.

bids from non-winners by 7.2 percent, the new bids will exceed the previous winning bids by 7.8 percent. Thus, I estimate that the revenues to the government from the broadband PCS auction would increase by 7.8 percent or \$82 million.

V. CONCLUSION

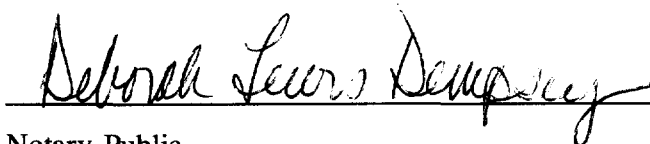
(25) Clarifying FCC policy on resale of cellular service by LECs owned by RBOCs will increase the value the RBOCs assign to the broadband PCS spectrum by approximately \$160 million. This would allow the RBOCs to increase their bids. Based on the results from the narrowband PCS auction, if the RBOCs increase their bids by approximately 15 percent, I estimate the increase in revenues to the U.S. government to be \$82 million.



Richard P. Rozek

Subscribed and sworn to before me

this 13 day of Oct. 1994.



Notary Public

My Commission Expires April 30, 1995

ATTACHMENT A

RICHARD P. ROZEK

BUSINESS ADDRESS:

National Economic Research Associates, Inc.
1800 M Street, N.W.
Washington, D.C. 20036
(202) 466-9295

HOME ADDRESS:

1916 Swan Terrace
Alexandria, VA 22307

Dr. Rozek received a B.A. degree in Mathematics with honors from the College of St. Thomas, a M.A. degree in Mathematics from the University of Minnesota, and M.A. and Ph.D. degrees in Economics from the University of Iowa.

Dr. Rozek began his professional career as an Assistant Professor at the University of Pittsburgh, where he taught industrial organization, mathematical economics and microeconomic theory. Dr. Rozek worked for over six years in the Bureau of Economics at the Federal Trade Commission in a series of senior staff positions including Deputy Assistant Director for Antitrust. While at the FTC, Dr. Rozek gained experience with antitrust and regulatory issues involving a variety of industries including electric and gas utilities, petroleum, soft drinks, for-profit and nonprofit hospitals, motion pictures and various high technology industries. Dr. Rozek also worked at the Pharmaceutical Manufacturers Association where he conducted research on issues such as the cost to develop a new drug, pharmaceutical industry profitability, benefits and costs of intellectual property protection, productivity of research and development personnel in the pharmaceutical industry, and reform of the health care reimbursement system.

Since joining NERA, Dr. Rozek has worked on projects involving regulated industries, including design of bidding processes for power generation markets and analysis of hospital rate regulation schemes; competition analyses in industries such as convenience food, electric equipment, electric utilities, health care, newspaper, pharmaceutical, telecommunications, and professional services; damage estimates in contract dispute, patent infringement, personal injury and libel cases; compensation issues in professional sports; and public policy studies in the pharmaceutical industry (intellectual property protection, parallel trade and pricing).

Dr. Rozek's articles have appear in such journals as *American Economist*, *Applied Economics*, *Contemporary Policy Issues*, *Electricity Journal*, *Energy Journal*, *Economics Letters*, *Journal of Economic Integration*, *Journal of Economics*, *Mathematical Modelling*, *Metroeconomica* and *Research Policy*.

EDUCATION:

UNIVERSITY OF IOWA
Ph.D., Economics, 1976
M.A., Economics, 1974

UNIVERSITY OF MINNESOTA
M.A., Mathematics, 1971

COLLEGE OF ST. THOMAS
B.A., Mathematics, 1969 (cum laude)

EMPLOYMENT:

- 1991- NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.--Washington, D.C.
Vice President.
- 1987-91 Senior Consultant. Worked on projects involving regulated industries including design of bidding processes for power generation markets and analysis of hospital rate regulation schemes; competition analyses in industries such as convenience food, electric equipment, electric utility, hospital, newspaper, pharmaceutical, telecommunications and professional services; damage estimates in contract dispute, patent infringement, personal injury and libel cases; compensation issues in professional sports; and public policy studies in the pharmaceutical industry (intellectual property protection, parallel trade and pricing).
- 1985-87 PHARMACEUTICAL MANUFACTURERS ASSOCIATION--Washington, D.C.
Senior Analyst, Economics. Analyzed issues affecting the research based pharmaceutical industry including intellectual property protection, costs and benefits of pharmaceutical therapies, the cost to develop a new pharmaceutical product, industry profitability and Medicare/Medicaid reform.
- 1979-85 FEDERAL TRADE COMMISSION--Washington, D.C.
Staff Economist, Antitrust and Regulatory Analysis Divisions, Bureau of Economics. Analyzed antitrust and regulatory issues involving computers, hospitals, oil, public utilities, securities (stock and futures), soft drinks, and various consumer goods industries.
- 1982-83 Deputy Assistant Director for Antitrust, Division of Antitrust, Bureau of Economics. Supervised eight staff economists working on a broad set of antitrust matters.
- 1976-79 UNIVERSITY OF PITTSBURGH--Pittsburgh, Pennsylvania
Assistant Professor, Department of Economics. Taught graduate and undergraduate courses in general equilibrium theory, mathematical economics, mathematics for economists, industrial organization, operations research and microeconomic theory; served on departmental committees; and supervised graduate student research projects.
- 1973-76 UNIVERSITY OF IOWA--Iowa City, Iowa
Research Assistant, Teaching Assistant, Instructor, College of Business Administration.
- 1972-73 ST. MARY'S COLLEGE--Winona, Minnesota
Instructor, Department of Mathematics. Taught undergraduate courses in number theory, integral and differential calculus, probability and statistics.
- 1969-72 UNIVERSITY OF MINNESOTA--Minneapolis, Minnesota
Teaching Assistant, Department of Mathematics.

PROFESSIONAL ACTIVITIES:

Publications and Speeches are listed in separate sections.

Referee for *Antitrust Bulletin* (1988 and 1992), *Applied Economics* (1983, 1984 and 1989), *Contemporary Policy Issues* (1991), *Managerial and Decision Economics* (1989), *Social Science Quarterly* (1987).

Invited Participant, U.S. Information Agency, American Participant Program in Argentina and Brazil, 1990.

Invited Discussant, Western Economic Association Annual Meeting, Economic Research at the FTC, 1986.

Invited Discussant, Illinois Institute of Technology, Center for the Study of Ethics in the Professions, Conference on Intellectual Property, 1985.

Invited Participant, Institute of Health Economics and Social Studies, Seminar on the Pharmaceutical Industry, 1978.

Awarded Summer Research Grant, University of Pittsburgh, Faculty of Arts and Sciences, 1978.

Invited Participant, Chicago Board of Trade, Summer Intern Program, 1977.

Received Commendation for Excellence in Teaching, University of Iowa, 1976.

Awarded Teaching and Research Assistantships, University of Minnesota and University of Iowa, 1969-1972 and 1973-1976, respectively.

Awarded HEW Scholarship, College of St. Thomas, 1965-1969.

Member, American Economic Association, Beta Gamma Sigma (National Honor Society in Business and Management), Delta Epsilon Sigma (National Scholastic Honor Society), Omicron Delta Epsilon (International Honor Society in Economics).

PUBLICATIONS:

"A Critique of the GAO Report on Differences in Prices for Prescription Drugs Between Canada and the United States," *Journal of Research in Pharmaceutical Economics*, forthcoming in summer of 1994.

"The Consequences of Pharmaceutical Product Patenting: A Critique," *World Competition*, Volume 16, March 1993, pp. 91-106.

"Parallel Trade in Pharmaceuticals: The Impact on Welfare and Innovation," (with R. Rapp), *Journal of Economic Integration*, Volume 7, Autumn 1992, pp. 181-203.

"Bidding Theory and the Baseball Player Market," *Kentucky Journal of Economics and Business*, Volume 11, September 1991, pp. 15-28.

"Discounted Cash Flow Analysis in Patent Infringement Litigation," (with C. Salisbury), *Licensing Economics Review*, Volume 1, August 1991, pp. 7-10.

"Toward a Definition of Effective Competition in Energy Markets," *The Electricity Journal*, Volume 4, July 1991, pp. 28-37.

"Benefits and Costs of Intellectual Property Protection in Developing Countries," (with R. Rapp), *Journal of World Trade*, Volume 24, October 1990, pp. 75-102. Reprinted as "How Property Protection Fuels Economies," *les Nouvelles*, Volume 27, September 1992, pp. 156-170.

"The Importance of Flexibility in Competitive Resource Procurement," (with L. Nordgulen), *The Electricity Journal*, Volume 3, June 1990, pp. 48-59.

"Competitive Bidding in Electricity Markets: A Survey," *The Energy Journal*, Volume 10, October 1989, pp. 117-138.

"Summary of 'Price Discrimination and Patent Policy' by J. Hausman and J. MacKie-Mason," *Manual on the Economics of Antitrust Law*, American Bar Association, Sixth Supplement, Summer 1989, pp. 11.1-11.2

"Technology Transfer: Licensing's Crucial Role," *Economic Impact*, Number 66, March 1989, pp. 50-54.

"Protection of Intellectual Property Through Licensing: Efficiency Considerations," *Journal of World Trade*, Volume 22, October 1988, pp. 27-34.

"Differences in Service Mix Between For Profit and Nonprofit Hospitals," *New York Economic Review*, Volume 18, Fall 1988, pp. 43-56.

"Bibliometric Analysis of U.S. Pharmaceutical Industry Research Performance," (with F. Narin), *Research Policy*, Volume 17, June 1988, pp. 139-154.

"A Nonparametric Test for Economies of Scope," *Applied Economics*, Volume 20, May 1988, pp. 653-663.

"Intellectual Property and Economic Growth," *Economic Impact*, Number 62, March 1988, pp. 43-47. Reprinted in *Viewpoint*, Volume 18, Summer 1989, pp. 23-29.

"A Bidding Process for a Centralized Market With Trading Out of Equilibrium," (with S. Wu), *Journal of Economics/Zeitschrift fur Nationalokonomie*, Volume 47, October 1987, pp. 287-307.

"Diversification by Nonprofit Firms: Competitive Implications," *Kentucky Journal of Economics and Business*, Volume 7, 1986-87, pp. 33-42.

"Protection of Intellectual Property Rights: Research and Development Decisions and Economic Growth," *Contemporary Policy Issues*, Volume 5, July 1987, pp. 54-65. Reprinted in *Intellectual Property (Patents, Copyrights, Trademarks) Policy and International Negotiations* (B.S. Dameron, editor), Washington: International Law Institute, 1987; and *Intellectual Property Rights in Science, Technology, and Economic Performance: International Comparisons* (F.W. Rushing and C.G. Brown, editors), Boulder: Westview Press, 1990.

"On the Behavior of For Profit and Nonprofit Hospitals," *Proceedings of the Inaugural Meeting of the Pennsylvania Economic Association*, Volume 1, May 1986, pp. 200-212.

"Competition as a Complement to Regulation," *The Energy Journal*, Volume 6, July 1985, pp. 79-90.

"The Over-Capitalization Effect with Diversification and Cross Subsidization," *Economics Letters*, Volume 16, October 1984, pp. 159-163.

"The Role of Market Power Measures in the Search for an Antitrust Case," *The American Economist*, Volume 28, Fall 1984, pp. 36-40.

"Rate of Return Regulation and Vertical Integration Under Uncertainty," *Mathematical Modelling*, Volume 4, July 1983, pp. 87-96.

"Brand Identification and Advertising: The Case of a Generic Trademark," *Applied Economics*, Volume 14, June 1982, pp. 235-248.

"A Model of the Firm's Demand for Money Under Uncertainty," (with S. Wu), *Metroeconomica*, Volume 31, June 1979, pp. 225-241.

"The Effects of Imperfect Information on Market Equilibrium," *Papers and Proceedings: Southwestern Society of Economists*, Volume 4, March 1979, pp. 235-240.

"The Formation of a Trader's Reservation Price," *Atlantic Economic Journal*, Volume 6, July 1978, p. 92.

"Numerical Examples of a Market Adjustment Mechanism," (with G. Moulton), *Modeling and Simulation*, Volume 8, December 1977, pp. 1027-1031.

THESES:

"A Non-Tatonnement Bidding Process for a Centralized Market," unpublished Ph.D. thesis, University of Iowa, 1976.

"Topologies on Function Spaces," unpublished M.A. thesis, University of Minnesota, 1971.